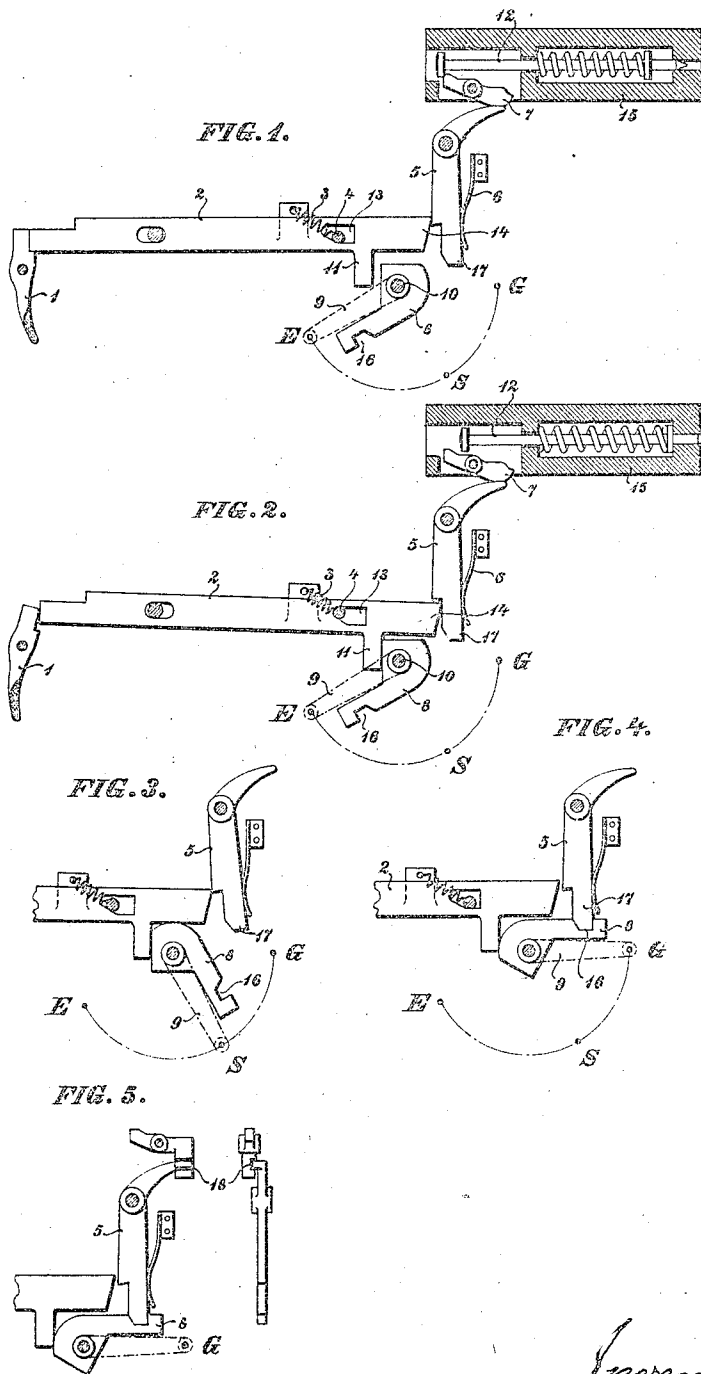


No. 814,854.

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H. LEHMANN.
FIRING MECHANISM FOR GUNS.
APPLICATION FILED AUG. 24, 1905.



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FIRING MECHANISM FOR GUNS.

No. 814,854.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed August 24, 1905. Serial No. 275,632.

To all whom it may concern:

Be it known that I, HERMANN LEHMANN, a subject of the King of Prussia, German Emperor, and a resident of Madgeburg, Kingdom of Prussia, Empire of Germany, have invented certain new and useful Improvements in Firing Mechanism for Guns, of which the following is a specification.

The present invention relates to firing mechanism which is adapted for use either in small-arms or ordnance and in which the displacement of the firing member is regulated by the adjustment of a stop-lever in such a manner that it is possible to adapt the weapon for single firing or for automatic firing or to lock the mechanism in a safety position.

In the accompanying drawings, Figures 1 and 2 show the mechanism adjusted for single firing. Fig. 3 shows it ready for automatic firing, and Fig. 5 is a detail view showing the means for securing the sear against accidental displacement. Fig. 4 shows it in the safety position. Fig. 1 shows the position of the mechanism before firing and Fig. 2 after firing.

The firing mechanism comprises the trigger 1, the sear 7, the trigger-and-sear connection embodying the reciprocating trigger-bar 2, the spring 3 for the bar 2, the fixed or rigid portion or bolt 4, fixed to the wall of the breech-casing, and the intermediate or pivoted lever 5, with the spring 6, and the stop-lever 8, with the indicator 9, the two latter being fixed upon the bolt 10, which is rotatably mounted in the breech-casing.

When the indicator is set to the point "E" for single firing, (see Figs. 1 and 2,) if the trigger 1 be pressed the trigger-bar 2 will move forward to such an extent that its projection 11 will strike against the adjacent face of the stop-lever 8. It thereby releases the striking-pin 12 by means of the intermediate lever 5 and the sear 7. At the same time, however, under the pressure of the inclined face of the slot 13 against the rigid or fixed portion or the bolt 4 the nose 14 of the trigger-bar is depressed to such an extent that the intermediate lever is able to pass over the said nose 14 and break connection between the trigger and the sear, whereby the pivoted intermediate lever may return to its previous position as soon as the release of the

striking-pin has taken place, thus permitting the sear to reengage the firing or striking pin 13 on the return movement of the breech-bolt 15. The parts remain in the position shown in Fig. 2 so long as the trigger 1 is still held. If it is released, the trigger-bar again returns to the position shown in Fig. 1.

Instead of constructing the firing mechanism in the manner illustrated in the drawings the aforesaid inclined face may be arranged upon the casing and a corresponding bolt or tappet on the trigger-bar.

For automatic firing the indicator 9 is turned to the point "S," Fig. 3, and the trigger 1 is held in this position either by hand or by means of some appropriate device during the whole period of automatic firing.

The faces of the stop-lever 8 coming against the trigger-bar are situated at such an interval from the axis of this lever that the trigger-bar performs a shorter movement than before, and it cannot therefore be displaced downward to such an extent as the "snapping" of the intermediate lever would necessitate. The intermediate lever does, however, oscillate sufficiently to rotate the sear 7 far enough to release the striking-pin; but it remains in this rocked position as long as the trigger is held. Accordingly as often as the reciprocating breech-block 15 moves forward the striking-pin is automatically released. Finally, if by adjusting the indicator so that it occupies the position "G" the stop-lever is caused to assume the position represented in Fig. 4 and the weapon is locked. The intervals between the faces on the stop-lever which are now operative are then such that the trigger-bar is either unable to effect any movement or that its displacement is not sufficient to disturb the intermediate lever or to release the striking-pin. At the same time the seat or notch 16 of the stop-lever comes over the nose 17 on the intermediate lever and prevents its accidental displacement. In order to also secure the sear 7 from accidental displacement, it may be provided with a projection in which is formed a groove 18, (see Fig. 5,) wherein a corresponding protuberance on the intermediate lever engages, (or vice versa,) so that the sear cannot be moved except upon the movement of

the trigger-and-sear connection, and as long as this latter is held any movement of release of the sear is prevented.

I claim—

- 5 1. The combination with the firing-pin, the sear for the pin, the trigger, of a reciprocating bar operated by the trigger, a lever adapted to be engaged by the trigger-bar and to engage the sear, and means for causing a move-
10 ment of the trigger-bar after the sear has been operated, to break the connection between the trigger-bar and the lever.
2. The combination with the firing-pin, the sear for the pin, and the trigger, of a bar oper-
15 erated by the trigger, an intermediate pivoted lever operated by the bar and operating the sear, and a stop-lever movable to a position to engage the pivoted lever and prevent its movement and to engage the bar and pre-
20 vent its movement.
3. The combination with the firing-pin, the sear for the pin, and the trigger, of a connection between the trigger and the sear embody-
ing a pivoted lever, and a swinging stop-lever
25 provided with a notch to receive a portion of the pivoted lever and prevent the movement of the pivoted lever.
4. The combination with the breech-bolt, the firing-pin, the sear for the pin carried by
30 the breech-bolt, and the trigger, of a connection between the trigger and the sear, said

connection engaging the sear in such a man-
ner that the sear cannot be moved except
upon the movement of the sear-and-trigger
connection.

- 5 5. The combination with the breech-bolt, the firing-pin, the sear carried by the breech-bolt, and the trigger, of a connection between the trigger and the sear, having a protuber-
40 ance and groove connection with the sear.

6. The combination with the breech-bolt, the firing-pin, the sear carried by the breech-bolt, and the trigger, of a connection between the trigger and the sear embodying a pivoted
45 lever having a protuberance and groove connection with the sear.

7. The combination with the breech-bolt, the firing-pin, the sear for the pin carried by the breech-bolt and the trigger, of a connection between the trigger and the sear, said
50 connection engaging the sear in such a manner that the sear cannot be moved except upon the movement of the sear-and-trigger connection, and means for locking the trigger-and-sear connection against movement.

The foregoing specification signed this 9th
day of August, 1905.

HERMANN LEHMANN

In presence of—

WILHELM FLEISCHHACK.
MARIE SCHNEIDER.